



From the desk of...

Market-Aimed Products

by Dave Biggs

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I recently completed a book on modern product development methods entitled **Market-Aimed Products** (MAP). This book documents a point in the evolution of Bently Nevada Corporation's product development practices. The events leading to writing the book actually began in 1984, when Don Bently took a worldwide tour. In Europe and on the Asian side of the Pacific Rim, Don had seen the early signs of a global competition that would extend beyond automobiles and consumer electronics. Even though the previous year had been very successful for Bently Nevada, Don returned with a strong mandate and said, "We must make sweeping changes in our business practices, especially product development."

Bently Nevada's product development philosophy had been to create successive generations of products, each with more value, features and functions, and a higher price tag. New paradigms for conducting business made it vital to produce higher quality products with more functions at a lower price. With the marketplace's needs changing at a rapid pace, our New Product Development department needed to be totally overhauled, not just modified.

Roger Harker, President of Bently Nevada, asked me to re-engineer the product development process. Fortunately, R.D. Garwood Associates had also become interested in product development practices and had established round table work sessions where many companies exchanged ideas and experiences on the

product development process. R.D. Garwood is a well-known teacher of modern production methodology and the author of **Shifting Paradigms**. Due to our established relationship, Mr. Garwood agreed to act as a consultant for Bently Nevada as we implemented Manufacturing Resource Planning concepts and practices. I was invited to participate, and we began studying the best product development practices.

My book breaks the new product development process down into five distinct phases.

- 1) understanding the customer's (your) needs and their priorities
- 2) evaluating the feasibility of fulfilling the highest priority needs
- 3) defining a product or service that will fulfill the need
- 4) designing the product
- 5) launching the product

In the past, we had seen product development only as "design" - that is, we would design a product. However, design is only a small portion of the process. In fact, as it turned out, most of the seeds of success or failure are sown in the definition process.

Each of the five phases is of equal importance. In the first phase, we try to understand your situation to determine which of your needs we have the skills and knowledge to fulfill. We don't want to create a list of the things *we* do well, or that *we* want to do. Roger Harker has a saying that applies, "technology enables us to fulfill customer needs, it doesn't create customer needs." We want to provide products and services with enough value that you will purchase them. MAP outlines new processes and tools, such as the S-curve, that help us understand the market.

The S-curve comes from Joel Arthur Barker's concepts about paradigms. Barker contends that any new idea, such as a new product, follows an S-curve. At first, the idea is not well-understood, so only a few people use it to solve problems and fulfill needs. But if the product does fulfill needs, more people take the time to understand and use it. As understanding develops, people suggest enhancements to the product that make it even more useful, and the number of needs it fulfills increases. Eventually, the product accomplishes most of the business needs it economically can, and the problems which remain are difficult or impossible to solve with the current (becoming old) product paradigm. A new product paradigm is required. Using the S-curve concepts in the MAP process allows companies to answer such questions as whether to put development resources into evolutionary changes in existing products or into a brand-new, revolutionary product architecture.

Processes outlined in MAP also cover topics like product cost management. The world has switched from "cost driving price" to "price driving cost" practices. A few decades ago, a company's financial resources were more plentiful and people had more discretionary choice in purchasing decisions. Today, in the globally competitive market, customers have to be very careful with their resources and have firm ideas about what prices are acceptable. Production costs have to be managed, so the product can be delivered at the customer's required price. New methods for managing in this "price driving cost" world are presented in MAP.

Bently Nevada's products are becoming specialized. We are moving from standardized, stand-alone hardware to specialized hardware and software systems that seamlessly integrate with other companies' systems to provide more value to the end-user customer. The MAP process has helped us effectively develop new products that quickly address our customers' needs.

Market-Aimed Products by Dave Biggs, with an introduction by Dave Garwood, is available from Dogwood Publishing, 800-368-7775. ■